- 1 -
SEQUENCE LISTING

```
<110>  ASTRAZENECA AB

<120>  GENETIC MARKER

<130>  LDG 101136

<150>  SE 0302122-7
<151>  2003-07-22

<160>  54

<170>  PatentIn version 3.2

<210>  1
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  1
ccgcgaacag cgccgccgaa cttcccaaca ggcagggaga gggccgatcc gggctggcac      60

rccacgtccc cggggtctca gtccctgggt caacgcagag aggctcgcgg tccgcggtgc     120

t                                                                     121


<210>  2
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  2
ggaggcgacc ggggcgcctc tgctccggag ggggcagagg agggagggag cgccgggcac      60

mgcgcccggt atctttctgc gcttgactgg ccgggaggaa gggggtgaca ctggggcacc     120

c                                                                     121


<210>  3
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  3
cctcatccag acgctccgct agtgcagaca ggagcgcgca gtggccccgg ctcgccgcgc      60

yatggagcgg atccccagcg cgcaaccacc ccccgcctgc ctgcccaaag caccgggact     120

g                                                                     121


<210>  4
<211>  121
<212>  DNA
<213>  Homo sapiens

<220>
<221>  misc_feature
<222>  (61)..(61)
<223>  n is a, c, g, or t

<400>  4
caggatgtac cctgcccaca tgtaccaagt gtacaagtca agacggggaa taaagcggag      60
```

```
ngaggacagc aaggtaagca agtgcacccc tagggaccct gcgctcagcc cctcgcgcgc    120

g                                                                    121


<210>  5
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  5
agacaggtgg cacccgtttt tttaaattat ttaattatat atatatatta tatatatata     60

yacacacaca cacacacaca catatatgag tgtatctgtc tatcttttta aaagcatgac    120

c                                                                    121


<210>  6
<211>  105
<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (61)..(62)
<223>  AT is a repeat of 4-7 units;

<220>
<221>  misc_feature
<222>  (63)..(64)
<223>  AC is a repeat of 8-15 units;

<400>  6
aatgcctcca aagacaggtg gcacccgttt ttttaaatta tttaattata tatatatatt     60

atacatatat gagtgtatct gtctatcttt ttaaaagcat cacct                    105


<210>  7
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  7
atcagaccca gctcccaaag tgatggactt caaggaaaaa cccagctctc cggccaaagg     60

ytcggaaggt cctgggaaaa actgcgtgcc agtcatccag cggactttcg ctcactcgag    120

t                                                                    121


<210>  8
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  8
actgcgtgcc agtcatccag cggactttcg ctcactcgag tggggagcag agcggcagcg     60

rcacggacac agacagtggc tatggaggag aatcggagaa gggcgacttg cgcagtgagc    120

a                                                                    121


<210>  9
<211>  122
```

```
<212>  DNA
<213>  Homo sapiens


<220>
<221>  misc_feature
<222>  (61)..(62)
<223>  AT is a repeat of 12-22 units;

<400>  9
ctgcaagatt gttgcattgt gtatactgag ataatctgag gcatggagag cagattcagg        60

gtatgtgcgt gtgcgtgcac atgtgtgcct gcgtgttggt ataggacttt aaagctcctt       120

tt                                                                      122


<210>  10
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  10
ctttaaagct cctttggca tagggaagtc acgaaggatt gcttgacatc aggagacttg         60

sgggggattg tagcagacgt ctgggctttt ccccacccag agaatagccc ccttcgatac       120

a                                                                       121


<210>  11
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  11
aagctccttt tggcataggg aagtcacgaa ggattgcttg acatcaggag acttggggggg       60

kattgtagca gacgtctggg cttttcccca cccagagaat agcccccttc gatacacatc      120

a                                                                       121


<210>  12
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  12
tccttttggc atagggaagt cacgaaggat tgcttgacat caggagactt ggggggggatt       60

rtagcagacg tctgggcttt tccccacccca gagaatagcc ccttcgata cacatcagct       120

g                                                                       121


<210>  13
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  13
catagcacgg tagtggtttg gggaggtttc cgcaggtctg ctccccaccc ctgcctcgga        60

rgaataaaga gaatgtagtt ccctactcag gctttcgtag tgattagctt actaaggaac       120

t                                                                       121
```

```
<210>  14
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  14
caacggcata tggagtgtcc ttattgctaa aaaggattcc gtctccttca aagaagtttt      60

wtttttggtc cagagtactt gttttcccga tgtgtccagc cagctccgca gcagcttttc     120

a                                                                     121


<210>  15
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  15
tatataaata tattaaaaag gaaaatgttt cagatgttta tttgtataat tacttgattc      60

mcacagtgag aaaaaatgaa tgtattcctg tttttgaaga gaagaataat ttttttttt      120

t                                                                     121


<210>  16
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  16
tatttgtata attacttgat tcacacagtg agaaaaaatg aatgtattcc tgtttttgaa      60

ragaagaata attttttttt tctctaggga gaggtacagt gtttatattt tggagccttc     120

c                                                                     121


<210>  17
<211>  121
<212>  DNA
<213>  Homo sapiens

<400>  17
gaaggtgtaa aattgtaaat attttttatct atgagtaaat gttaagtagt tgttttaaaa      60

wacttaataa aataattctt ttcctgtgga agagaaagat ggtctcctga gttttttaaa     120

a                                                                     121


<210>  18
<211>  412
<212>  PRT
<213>  Homo sapiens

<400>  18

Met Glu Arg Ile Pro Ser Ala Gln Pro Pro Pro Ala Cys Leu Pro Lys
1                5                  10                  15


Ala Pro Gly Leu Glu His Gly Asp Leu Pro Gly Met Tyr Pro Ala His
            20                  25                  30
```

```
Met Tyr Gln Val Tyr Lys Ser Arg Arg Gly Ile Lys Arg Ser Glu Asp
        35              40                  45

Ser Lys Glu Thr Tyr Lys Leu Pro His Arg Leu Ile Glu Lys Lys Arg
    50              55                  60

Arg Asp Arg Ile Asn Glu Cys Ile Ala Gln Leu Lys Asp Leu Leu Pro
65                  70                  75                  80

Glu His Leu Lys Leu Thr Thr Leu Gly His Leu Glu Lys Ala Val Val
            85                  90                  95

Leu Glu Leu Thr Leu Lys His Val Lys Ala Leu Thr Asn Leu Ile Asp
            100             105                 110

Gln Gln Gln Gln Lys Ile Ile Ala Leu Gln Ser Gly Leu Gln Ala Gly
        115                 120                 125

Glu Leu Ser Gly Arg Asn Val Glu Thr Gly Gln Glu Met Phe Cys Ser
    130             135                 140

Gly Phe Gln Thr Cys Ala Arg Glu Val Leu Gln Tyr Leu Ala Lys His
145             150                 155                 160

Glu Asn Thr Arg Asp Leu Lys Ser Ser Gln Leu Val Thr His Leu His
            165                 170                 175

Arg Val Val Ser Glu Leu Leu Gln Gly Gly Thr Ser Arg Lys Pro Ser
            180                 185                 190

Asp Pro Ala Pro Lys Val Met Asp Phe Lys Glu Lys Pro Ser Ser Pro
        195                 200                 205

Ala Lys Gly Ser Glu Gly Pro Gly Lys Asn Cys Val Pro Val Ile Gln
    210             215                 220

Arg Thr Phe Ala His Ser Ser Gly Glu Gln Ser Gly Ser Asp Thr Asp
225             230                 235                 240

Thr Asp Ser Gly Tyr Gly Gly Glu Ser Glu Lys Gly Asp Leu Arg Ser
            245                 250                 255

Glu Gln Pro Cys Phe Lys Ser Asp His Gly Arg Arg Phe Thr Met Gly
        260                 265                 270

Glu Arg Ile Gly Ala Ile Lys Gln Glu Ser Glu Glu Pro Pro Thr Lys
        275                 280                 285

Lys Asn Arg Met Gln Leu Ser Asp Asp Glu Gly His Phe Thr Ser Ser
    290                 295                 300
```

- 6 -

```
Asp Leu Ile Ser Ser Pro Phe Leu Gly Pro His Pro His Gln Pro Pro
305             310             315             320

Phe Cys Leu Pro Phe Tyr Leu Ile Pro Pro Ser Ala Thr Ala Tyr Leu
            325             330             335

Pro Met Leu Glu Lys Cys Trp Tyr Pro Thr Ser Val Pro Val Leu Tyr
            340             345             350

Pro Gly Leu Asn Ala Ser Ala Ala Ala Leu Ser Ser Phe Met Asn Pro
            355             360             365

Asp Lys Ile Ser Ala Pro Leu Leu Met Pro Gln Arg Leu Pro Ser Pro
    370             375             380

Leu Pro Ala His Pro Ser Val Asp Ser Ser Val Leu Leu Gln Ala Leu
385             390             395             400

Lys Pro Ile Pro Pro Leu Asn Leu Glu Thr Lys Asp
            405             410
```

```
<210>   19
<211>   2922
<212>   DNA
<213>   Homo sapiens

<400>   19
ggacaccggg ccatgcacgc ccccaactga agctgcatct caaagccgaa gattccagca      60

gcccagggga tttcaaagag ctcagactca gaggaacatc tgcggagaga cccccgaagc     120

cctctccagg gcagtcctca tccagacgct ccgctagtgc agacaggagc gcgcagtggc     180

cccggctcgc cgcgccatgg agcggatccc cagcgcgcaa ccaccccccg cctgcctgcc     240

caaagcaccg ggactggagc acggagacct accagggatg taccctgccc acatgtacca     300

agtgtacaag tcaagacggg gaataaagcg gagcgaggac agcaaggaga cctacaaatt     360

gccgcaccgg ctcatcgaga aaaagagacg tgaccggatt aacgagtgca tcgcccagct     420

gaaggatctc ctacccgaac atctcaaact tacaactttg ggtcacttgg aaaaagcagt     480

ggttcttgaa cttaccttga agcatgtgaa agcactaaca aacctaattg atcagcagca     540

gcagaaaatc attgccctgc agagtggttt acaagctggt gagctgtcag ggagaaatgt     600

cgaaacaggt caagagatgt tctgctcagg tttccagaca tgtgcccggg aggtgcttca     660

gtatctggcc aagcacgaga acactcggga cctgaagtct cgcagcttg tcacccacct     720

ccaccgggtg gtctcggagc tgctgcaggg tggtacctcc aggaagccat cagacccagc     780

tcccaaagtg atggacttca aggaaaaacc cagctctccg gccaaaggtt cggaaggtcc     840

tgggaaaaac tgcgtgccag tcatccagcg gactttcgct cactcgagtg gggagcagag     900

cggcagcgac acggacacag acagtggcta tggaggagaa tcggagaagg gcgacttgcg     960

cagtgagcag ccgtgcttca aaagtgacca cggacgcagg ttcacgatgg agaaaggat    1020
```

```
cggcgcaatt aagcaagagt ccgaagaacc ccccacaaaa aagaaccgga tgcagctttc   1080

ggatgatgaa ggccatttca ctagcagtga cctgatcagc tccccgttcc tgggcccaca   1140

cccacaccag cctcctttct gcctgccctt ctacctgatc ccaccttcag cgactgccta   1200

cctgcccatg ctggagaagt gctggtatcc cacctcagtg ccagtgctat acccaggcct   1260

caacgcctct gccgcagccc tctctagctt catgaaccca gacaagatct cggctccctt   1320

gctcatgccc cagagactcc cttctccctt gccagctcat ccgtccgtcg actcttctgt   1380

cttgctccaa gctctgaagc caatcccccc tttaaactta gaaaccaaag actaaactct   1440

ctaggggatc ctgctgcttt gctttccttc ctcgctactt cctaaaaagc aacaaaaaag   1500

tttttgtgaa tgctgcaaga ttgttgcatt gtgtatactg agataatctg aggcatggag   1560

agcagattca gggtgtgtgt gtgtgtgtgt gtgtgtgtgt gtatgtgcgt gtgcgtgcac   1620

atgtgtgcct gcgtgttggt ataggacttt aaagctcctt ttggcatagg gaagtcacga   1680

aggattgctt gacatcagga gacttggggg ggattgtagc agacgtctgg gctttttcccc   1740

acccagagaa tagccccctt cgatacacat cagctggatt ttcaaaagct tcaaagtctt   1800

ggtctgtgag tcactcttca gtttgggagc tgggtctgtg gctttgatca gaaggtactt   1860

tcaaaagagg gctttccagg gctcagctcc caaccagctg ttaggacccc acccttttgc   1920

ctttattgtc gacgtgactc accagacgtc ggggagagag agcagtcaga ccgagctttc   1980

tgctaacatg gggaggtagc aggcactggc atagcacggt agtggtttgg ggaggtttcc   2040

gcaggtctgc tccccacccc tgcctcggaa gaataaagag aatgtagttc cctactcagg   2100

ctttcgtagt gattagctta ctaaggaact gaaaatgggc cccttgtaca agctgagctg   2160

ccccggaggg agggaggagt tccctgggct tctggcacct gtttctaggc ctaaccatta   2220

gtacttactg tgcagggaac caaaccaagg tctgagaaat gcggacaccc cgagcgagca   2280

ccccaaagtg cacaaagctg agtaaaaagc tgcccccttc aaacagaact agactcagtt   2340

ttcaattcca tcctaaaact ccttttaacc aagcttagct tctcaaaggc ctaaccaagc   2400

cttggcaccg ccagatcctt tctgtaggct aattcctctt gcccaacggc atatggagtg   2460

tccttattgc taaaaaggat tccgtctcct tcaaagaagt tttatttttg gtccagagta   2520

cttgttttcc cgatgtgtcc agccagctcc gcagcagctt ttcaagatgc actatgcctg   2580

attgctgatc gtgttttaac tttttctttt cctgttttta ttttggtatt aagtcgttgc   2640

ctttatttgt aaagctgtta taaatatata ttatataaat atattaaaaa ggaaaatgtt   2700

tcagatgttt atttgtataa ttacttgatt cacacagtga gaaaaaatga atgtattcct   2760

gttttgaag agaagaataa tttttttttc tctagggaga ggtacagtgt ttatattttg    2820

gagccttcct gaaggtgtaa aattgtaaat attttatct atgagtaaat gttaagtagt    2880

tgttttaaaa tacttaataa aataattctt ttcctgtgga ag                      2922
```

```
<210>   20
<211>   9372
<212>   DNA
```

- 8 -

<213> Homo sapiens

<400> 20

```
tagatagtaa cagtatagac tcattcagca cacagtgtaa ggccaccaag atgctgagtc      60

ccaataggaa agaagagaaa gatcccatct ttctcttgta cgaaattatg ttctctcccc     120

acttagaaga gacaaaacag cagggacggc tacaaaatgg caggattacc cagtgcagct     180

gctcagtgcc acattgcaca actccagagg gtgctctcac acagactgca atgtgaatag     240

ctccccctgg agttgagcgg tgcacaaccc aaacaaccct accaggcaac cgtaagtata     300

gtgattaaga gcacaagctt tggagtccaa caaacctggg ggcctgtctc agactgaatc     360

ccagactata taacctgggg caggttattt agcctccttg agcctcaatt ttccaaacag     420

aatatgttat acatccctag ggcctatttc agtgtctggc attgaataac aataaacacg     480

tgtcaaatgc atcgagctaa tactagtacc tgcctaaaag gtggtggtga ggagcaaaga     540

aattgacata cgaaaggttt ttaatatcta caaaagatga cagactgaaa tagtaacatt     600

ctccaggatg gaaagatcta tgccacgtag gaattgtttg ttcaaattat tattttttaa     660

aagccataag ctatggagag aataacagag ttttgttttg tttttttaatc ctgatacggt     720

ggaagtctgg taggatggga accgttcttg aagcttgaga atacattcgg aacaaataaa     780

aagtaggaaa tgcatacatt ttgttattta cagttgtagg gcaggtaagg gcaaaacgta     840

ttgataaact caaagaattt taagaatgat attgtcatga gccatgagcc atggaagctg     900

caaggtttgg gctccctcct gccatcgggt gggggtgtc ggcggaaggg ggtacgtgtc     960

ctgtcctctc ccagtgctta tttcctgctg gaaccgtggt tttgacgcag ccgtgacagc    1020

ccttcatcct tattaaaatc acacaatgaa gcaggtcgcc caagattgaa agcgcgtttc    1080

cagggcggac cccggtcccc gcctttggcc agcaaaagta cattctggca gggagggatc    1140

tctgagcccc gaagtgaggt catgccagtt agcagttaga aaggaggca tttctcacac    1200

ttgctaaaga gtttgacgct tgtgaaatat aaacaggaag cgggagctct ccaaggcgac    1260

ctgaaggaaa tacactgcca gtttggtcaa cttgtgaatg ccagttctct aggtcgtcaa    1320

gggcactgcc agttaagact gatcccctaa ctgcacccga ggctactact cttcgcccag    1380

tctcggcagt gaccccattt ttttttcaat ccttcccaca gccaggtcac tcagcagtgg    1440

ggtgactgac ccgaagcgca gtgggaaggg cttacagtca tctctcaact ccccgaactt    1500

gcagggcagg ggagcgcaga ggtcagtgaa atccccagcc aggccttatt ttagtcatga    1560

gtttccactg gctccctcct ctgactgtat cagcgctgct cacaccgcgg gattggagtt    1620

tcagctgttt tccctgctcc cggctgagtg agaaggtcac agagcccgga cctttccggg    1680

ggaggtgggt ggggccctcc ggcagcctaa gtgagattgc agagatctgg ggccgctgga    1740

ggaggtcctt ccgccccggg cttggggctt tgggttagct tctcccccgc ttctctacct    1800

aggcatctcg gttacaatga aattaaaaac aaaacacaaa gcaacacaag ttctcattgt    1860

ttttcccctc tgtcagccag tggcctcgat acaattttcc cagggctgcc tttcctttat    1920

tgctcaattt aacctcttcc tagaggttct gcaagttcaa gggcaggatc cgtgtcggat    1980
```

```
tcatcaacta gtgcagcgcc tagcgcagag caggggggctc aagaaatacg tgtcgaccgc    2040

atgattgcta agatttccct gtaacaggcg gtttttttttt cttgtctctc tcatccctcc    2100

tgccctgggt gcagaccgcg aacagcgccg ccgaacttcc caacaggcag ggagagggcc    2160

gatccgggct ggcacgccac gtccccgggg tctcagtccc tgggtcaacg cagagaggct    2220

cgcggtccgc ggtgctacga cctgagcccg gccacgtgaa gcgtcacgcc ctgcgctgct    2280

gcagggcagg cgccgccgcc gcggttgtgt aacgctgcag ccggaggggga ggcgaccggg    2340

gcgcctctgc tccggagggg gcagaggagg gagggagcgc cgggcacagc gcccggtatc    2400

tttctgcgct tgactggccg ggaggaaggg ggtgacactg gggcacccag ggggctgcgc    2460

aaccgggtgc ccgcccgccc gcaggttgtg cccaggagcg gagctcctgg gagcgagggg    2520

ccctcggctc acaccctcca cggtcaggtg cgcgcggcgt gctcggcggc agcctcagct    2580

gcccctgcgc ttggccgtcg gcccgcttcc catggggtga catccgcccc gccccctcggt    2640

ccctccccaa ggcgggcaat tcctggacgc gagggtgagc agtgggggca gggaagccag    2700

gacggaaaga aaccccagcc tctggggaag gctgggggggc cgggcgactc cctccgcagc    2760

gcgccggttc ctccaagcgg gccgggcggg ggaggaggaa gagggctggg ctggagctag    2820

caaggggata ttcctctccc ggcttgagtc agacgcgggc ggatccgtcc tcccccgttc    2880

cctcccagga gacgggaact tacttcattt ccctgggggca ggttcgccca cgttaccaac    2940

ttctccccct cccccagcac ccccgtccct tccagcttcc gcgccccca cccaactggg    3000

caggacccag gtcgtgctgc caccccctct tcggggaaag gcggccgcag ccgcagacac    3060

ctggggggccg gggctggggg tggggggctcc ctagcagccg ccggagcgtt gtccaacacg    3120

tgagactcat gtgatgaagc cggggggaggg cgggcaggtc gctccttccc tccccggcag    3180

tggccagacg tgcctggagt cacagggtag aacacgtagc tccaacccac ccactcgctc    3240

ccatttaacc cagcccgcag cctctccatt actcctcggc ttgccccccc accccccac    3300

tccgccctaa ccgccccccc ctcacccgct ccctcccgcc tccccgcccg ccccacttct    3360

cattcacttg gctcgcacgg cgcagacaga ccgcgcaggg agcacacacc gccagtctgt    3420

gcgctgagtc ggagccagag gccgcgggga caccgggcca tgcacgcccc caactgaagc    3480

tgcatctcaa agccgaagat tccagcagcc caggggattt caaagagctc agactcagag    3540

gaacatctgc ggagagaccc ccgaagccct ctccagggca gtcctcatcc agacgctccg    3600

ctagtgcaga caggagcgcg cagtggcccc ggctcgccgc gccatggagc ggatccccag    3660

cgcgcaacca ccccccgcct gcctgcccaa agcaccggga ctggagcacg gagacctacc    3720

agggtaagtt ggcactcctt ggcccttcaa gcctcaactg cagccccatg ttatgcgcca    3780

ctctcaactt ggagcagctc cgggcgcacc gggaggttct tgcccggcag aacgcctgca    3840

gccgtgcgca agcagtcacg acccttcctg gtctctcttc ctgcaggatg taccctgccc    3900

acatgtacca agtgtacaag tcaagacggg gaataaagcg gagcgaggac agcaaggtaa    3960

gcaagtgcac ccctagggac cctgcgctca gcccctcgcg cgcgctgagt ttccaagaaa    4020
```

```
agttttctcg ctttgaggtt ggcgagggga tgcagggtgt gggctcggtg cctcttctga    4080

gtgacttgga aaagaaaggg cagacgatgg ttctgggtgc tactctgcta ctctgctcct    4140

ctgccggact gttgctgcgg ggctgggagg ataggcttct catctccttc cccaagcgcc    4200

caccgcctcc ccgtgcgtct tgcaggagac ctacaaattg ccgcaccggc tcatcgagaa    4260

aaagagacgt gaccggatta acgagtgcat cgcccagctg aaggatctcc tacccgaaca    4320

tctcaaactt acagtaagtg agaagctggc ccctttccaa cccagtcctt tgcccagagg    4380

gcgggcgggt cactcgccgc ctgcaggttc cgcggggaac tgcagaccag actggcggat    4440

cagagctggc gggtggctct gcggtggggt cctcctccac agtcctggcg ttttctggct    4500

gactcatgca aatgaggcga gaaccacttg gacctctcca agttggctcc aacaccaact    4560

ggccttcctt ttcaggagtt taacttctgg tgattttcag gattccctag ttttctcac    4620

ttaaaggaac acgccaagaa acacacacat tttatttacc ccttcccctc taccactccc    4680

cccacctttt ttgttgttgt tgtcaaataa ggggacttgc tttggtgtgt gattttacg    4740

gcctgtcctt tcttgacagt agccctcggc tacttcgcag cctttggttg gggaaatgga    4800

aaaaaaaaa atagtatttc gggaggaaca aaaaagcctg gatgagctgg aagttctgaa    4860

agggtgtaag gaaagaagta gggaaagcct cttggctgcc agacgtaata gaggtccctc    4920

tctgagttga caccactgca ggaaaatgtt atctctggat tcccctgagt taaggtcggc    4980

agaggctgct ggagaaattt atctgtcaaa ggattttcct gaggtagttg cagcttccaa    5040

aatgcctcca aagacaggtg gcacccgttt ttttaaatta tttaattata tatatatatt    5100

atatatatat atacacacac acacacacac acatatatga gtgtatctgt ctatcttttt    5160

aaaagcatga cctacagact taaaacagcc aaccaggaaa cactattcca cttttttttt    5220

tcttttctca tttctcattg ctaataaatg tcccaaaggt gggacttctc tgacctcacc    5280

gctgactaag gctctttttcc ttccagactt tgggtcactt ggaaaaagca gtggttcttg    5340

aacttacctt gaagcatgtg aaagcactaa caaacctaat tgatcagcag cagcagaaaa    5400

tcattgccct gcagagtggt ttacaagctg gtgagtgctg attctggcta tgctctcttt    5460

aagagtttga gtgcaaatag agagcccgtg ggctcaacat ctgatgtaat aaacattact    5520

gcaacaaatt gcttatgcac gttcattggg ggagatgcag ttttatcttt cctaaaaggt    5580

cagactttc atttgaaatg cattgtgcca cctggcatga atacgtatta gtgaaatgat    5640

aagatattcc tgtggcattt tagcttgaga gtctctgggt tctgggagat ttccctactc    5700

cctttttaaaa tgccaaggca cctataattt gcattgtggg tgtttttacag ttggtcttct    5760

tagccctctt tcattggaga agaaatcatg ggtatgcccc agcgttttcc tgtttctttg    5820

cttccttgtc acttggtgtg tggtgtgatc ctggcaggat acagcaggag tttttcctgc    5880

atttcatgtg gttccctgaa tagccactag gtatcttggt gaattgcaca atctagcgaa    5940

accactgaag tttcatcatt cgttctact gacttccaga taatcggagt caaccttcta    6000

accttctagt ctcacttctt ccaaataata ctgtacagac tggggagaat tattctaccc    6060
```

```
actccctcat ttcatgcttg tctgccttcc tctcgaaggc tcgtatgatg aaaattgcaa    6120

aaacccagct agtgcttctg cctgtttcct cattcaaaat aggaagatgg tcatacctaa    6180

tgtcttgagg atcatggata gaatatgtgg agaagacata gaaatagcct aattaaaggt    6240

cacagcatga ctgcaacttt tacaaatcat tgaaaataag tttactttag gtgattgttg    6300

tttcttcatt cttttcctca ttttataact atccagcctc tgcccatttt gccacggtgc    6360

aatgttgtat gcattgactc ttaggtttat aaatacatca gaatgttctt tgctgcctcg    6420

cttacatgga aaactcacaa accacctata caatccaaaa gaggggaaac agctcatctc    6480

atattaatta tggtccattt ccatgatagg atattatgca accattaaaa atcatatttt    6540

atctgagtgt tagtatatgg attattttaa ttatttatac ttttcagtgt aattcttctc    6600

tgagcatact acttttggag ttaggaacac aaatcagtaa atgcattttt ttttttaac     6660

aaaaactaaa gcacctggtt ttttggagta tagtttccag gtgcgccaca ggccttctga    6720

aacgttttcc ttcggatttt tctttcccca ggtgagctgt cagggagaaa tgtcgaaaca    6780

ggtcaagaga tgttctgctc aggtttccag acatgtgccc gggaggtgct tcagtatctg    6840

gccaagcacg agaacactcg ggacctgaag tcttcgcagc ttgtcaccca cctccaccgg    6900

gtggtctcgg agctgctgca gggtggtacc tccaggaagc catcagaccc agctcccaaa    6960

gtgatggact tcaaggaaaa acccagctct ccggccaaag gttcggaagg tcctgggaaa    7020

aactgcgtgc cagtcatcca gcggactttc gctcactcga gtggggagca gagcggcagc    7080

gacacggaca cagacagtgg ctatggagga gaatcggaga agggcgactt gcgcagtgag    7140

cagccgtgct tcaaaagtga ccacggacgc aggttcacga tgggagaaag gatcggcgca    7200

attaagcaag agtccgaaga acccccaca aaaaagaacc ggatgcagct ttcggatgat    7260

gaaggccatt tcactagcag tgacctgatc agctccccgt tcctgggccc acacccacac    7320

cagcctcctt tctgcctgcc cttctacctg atcccacctt cagcgactgc ctacctgccc    7380

atgctggaga agtgctggta tcccacctca gtgccagtgc tatacccagg cctcaacgcc    7440

tctgccgcag ccctctctag cttcatgaac ccagacaaga tctcggctcc cttgctcatg    7500

ccccagagac tcccttctcc cttgccagct catccgtccg tcgactcttc tgtcttgctc    7560

caagctctga agccaatccc ccctttaaac ttagaaacca aagactaaac tctctagggg    7620

atcctgctgc tttgctttcc ttcctcgcta cttcctaaaa agcaacaaaa aagttttgt     7680

gaatgctgca agattgttgc attgtgtata ctgagataat ctgaggcatg gagagcagat    7740

tcagggtgtg tgtgtgtgtg tgtgtgtgtg tgtgtatgtg cgtgtgcgtg cacatgtgtg    7800

cctgcgtgtt ggtataggac tttaaagctc ctttttggcat agggaagtca cgaaggattg    7860

cttgacatca ggagacttgg gggggattgt agcagacgtc tgggcttttc cccacccaga    7920

gaatagcccc cttcgataca catcagctgg attttcaaaa gcttcaaagt cttggtctgt    7980

gagtcactct tcagtttggg agctgggtct gtggctttga tcagaaggta ctttcaaaag    8040

aggctttcc agggctcagc tcccaaccag ctgttaggac cccacccttt tgcctttatt     8100
```

- 12 -

```
gtcgacgtga ctcaccagac gtcggggaga gagagcagtc agaccgagct ttctgctaac    8160

atggggaggt agcaggcact ggcatagcac ggtagtggtt tggggaggtt tccgcaggtc    8220

tgctccccac ccctgcctcg gaagaataaa gagaatgtag ttccctactc aggctttcgt    8280

agtgattagc ttactaagga actgaaaatg gccccttgt acaagctgag ctgccccgga     8340

gggagggagg agttccctgg gcttctggca cctgtttcta ggcctaacca ttagtactta    8400

ctgtgcaggg aaccaaacca aggtctgaga aatgcggaca ccccgagcga gcaccccaaa    8460

gtgcacaaag ctgagtaaaa agctgccccc ttcaaacaga actagactca gttttcaatt    8520

ccatcctaaa actccttta accaagctta gcttctcaaa ggcctaacca agccttggca     8580

ccgccagatc ctttctgtag gctaattcct cttgcccaac ggcatatgga gtgtccttat    8640

tgctaaaaag gattccgtct ccttcaaaga agttttattt ttggtccaga gtacttgttt    8700

tcccgatgtg tccagccagc tccgcagcag cttttcaara tgcactatgc ctgattgctg    8760

atcgtgtttt aactttttct tttcctgttt ttattttggt attaagtcgt tgcctttatt    8820

tgtaaagctg ttataaatat atattatata aatatattaa aaaggaaaat gtttcagatg    8880

tttatttgta taattacttg attcacacag tgagaaaaaa tgaatgtatt cctgtttttg    8940

aagagaagaa taatttttt tttctctagg gagaggtaca gtgtttatat tttggagcct     9000

tcctgaaggt gtaaaattgt aaatatttt atctatgagt aaatgttaag tagttgtttt     9060

aaaatactta ataaaataat tcttttcctg tggaagagaa agatggtctc ctgagttttt    9120

taaaatagct cacttggtgt gatatggctg actcccatgt ccttctttct tggctgaagc    9180

aaaccagtta atctcagtgt aatttcattc agcttttcat gtgctttgta ttcaatcaga    9240

ataagcttag tcaacctggc aggtaaatat tggttcaatt tttgtttaac ccttgccagg    9300

ggttcatgat catcctctac ctctttccag agttaagtaa aaagcatatt ttcccttgcc    9360

ctgctttcat cg                                                        9372
```

```
<210>   21
<211>   60
<212>   DNA
<213>   Homo sapiens

<400>   21
ccgcgaacag cgccgccgaa cttcccaaca ggcagggaga gggccgatcc gggctggcac       60


<210>   22
<211>   60
<212>   DNA
<213>   Homo sapiens

<400>   22
ggaggcgacc gggcgcctc tgctccggag ggggcagagg agggaggggag cgccgggcac       60


<210>   23
<211>   60
<212>   DNA
<213>   Homo sapiens
```

```
<400>  23
cctcatccag acgctccgct agtgcagaca ggagcgcgca gtggccccgg ctcgccgcgc       60


<210>  24
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  24
caggatgtac cctgcccaca tgtaccaagt gtacaagtca agacggggaa taaagcggag       60


<210>  25
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  25
agacaggtgg cacccgtttt tttaaattat ttaattatat atatatatta tatatatata       60


<210>  26
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  26
aatgcctcca aagacaggtg gcacccgttt ttttaaatta tttaattata tatatatatt       60


<210>  27
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  27
atcagaccca gctcccaaag tgatggactt caaggaaaaa cccagctctc cggccaaagg       60


<210>  28
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  28
actgcgtgcc agtcatccag cggactttcg ctcactcgag tggggagcag agcggcagcg       60


<210>  29
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  29
ctgcaagatt gttgcattgt gtatactgag ataatctgag gcatggagag cagattcagg       60


<210>  30
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  30
ctttaaagct ccttttggca tagggaagtc acgaaggatt gcttgacatc aggagacttg       60
```

<210> 31
<211> 60
<212> DNA
<213> Homo sapiens

<400> 31
aagctccttt tggcataggg aagtcacgaa ggattgcttg acatcaggag acttggggg g   60

<210> 32
<211> 60
<212> DNA
<213> Homo sapiens

<400> 32
tcctttggc atagggaagt cacgaaggat tgcttgacat caggagactt ggggggattt   60

<210> 33
<211> 60
<212> DNA
<213> Homo sapiens

<400> 33
tcctttggc atagggaagt cacgaaggat tgcttgacat caggagactt ggggggattt   60

<210> 34
<211> 60
<212> DNA
<213> Homo sapiens

<400> 34
caacggcata tggagtgtcc ttattgctaa aaaggattcc gtctccttca aagaagtttt   60

<210> 35
<211> 60
<212> DNA
<213> Homo sapiens

<400> 35
tatataaata tattaaaaag gaaatgttt cagatgttta tttgtataat tacttgattc   60

<210> 36
<211> 60
<212> DNA
<213> Homo sapiens

<400> 36
tatttgtata attacttgat tcacacagtg agaaaaaatg aatgtattcc tgttttgaa   60

<210> 37
<211> 60
<212> DNA
<213> Homo sapiens

<400> 37
gaaggtgtaa aattgtaaat atttttatct atgagtaaat gttaagtagt tgttttaaaa   60

<210> 38
<211> 60
<212> DNA
<213> Homo sapiens

```
<400>  38
ccacgtcccc ggggtctcag tccctgggtc aacgcagaga ggctcgcggt ccgcggtgct        60


<210>  39
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  39
gcgcccggta tctttctgcg cttgactggc cgggaggaag ggggtgacac tggggcaccc        60


<210>  40
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  40
atggagcgga tccccagcgc gcaaccaccc cccgcctgcc tgcccaaagc accgggactg        60


<210>  41
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  41
gaggacagca aggtaagcaa gtgcacccct agggaccctg cgctcagccc ctcgcgcgcg        60


<210>  42
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  42
acacacacac acacacac atatatgagt gtatctgtct atcttttaa aagcatgacc          60


<210>  43
<211>  41
<212>  DNA
<213>  Homo sapiens

<400>  43
atatatgagt gtatctgtct atcttttaa aagcatcacc t                            41


<210>  44
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  44
tcggaaggtc ctgggaaaaa ctgcgtgcca gtcatccagc ggactttcgc tcactcgagt        60


<210>  45
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  45
cacggacaca gacagtggct atggaggaga atcggagaag ggcgacttgc gcagtgagca        60


<210>  46
```

```
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  46
atgtgcgtgt gcgtgcacat gtgtgcctgc gtgttggtat aggactttaa agctcctttt        60


<210>  47
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  47
gggggattgt agcagacgtc tgggcttttc cccacccaga gaatagcccc cttcgataca        60


<210>  48
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  48
attgtagcag acgtctgggc ttttccccac ccagagaata gccccttcg atacacatca        60


<210>  49
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  49
tagcagacgt ctgggctttt ccccacccag agaatagccc ccttcgatac acatcagctg        60


<210>  50
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  50
tagcagacgt ctgggctttt ccccacccag agaatagccc ccttcgatac acatcagctg        60


<210>  51
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  51
tttttggtcc agagtacttg ttttcccgat gtgtccagcc agctccgcag cagcttttca        60


<210>  52
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  52
cacagtgaga aaaatgaat gtattcctgt ttttgaagag aagataatt ttttttttct        60


<210>  53
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  53
```

- 17 -

```
agaagaataa tttttttttt ctctagggag aggtacagtg tttatatttt ggagccttcc        60


<210>  54
<211>  60
<212>  DNA
<213>  Homo sapiens

<400>  54
acttaataaa ataattcttt tcctgtggaa gagaaagatg gtctcctgag tttttttaaaa      60
```